

Damage Agent:	annosus root disease
	<i>Heterobasidion annosum</i>
Survey Year:	2010
Submitted By:	Kathleen Matthews
Last Edited:	12/15/2010 12:42:06 PM
FS Region:	Region 4
Host(s):	California Red Fir, Douglas-Fir, Engelmann Spruce, Fir Spp., Grand Fir, Jeffrey Pine, Lodgepole Pine, Ponderosa Pine, Subalpine Fir, White Fir
Survey Method:	General Observation
Setting(s):	Rural Forest
Pest Origin:	Native
Acres Affected:	0
Affected Area:	
Narrative:	
This fungal root disease can be found infecting host species throughout the Intermountain Region. As a disease causing agent, the full ecological effects of this organism have never been evaluated over long temporal and spatial scales. However, by killing planted or naturally regenerated seedlings and saplings (particularly, ponderosa pine on dry sites), <i>H. annosum</i> can cause significant economic losses. This organism is also a saprophyte, and has a vital role in recycling dead trees, stumps, and roots.	
Counties or Equivalents - Causing Damage (Yes/No):	
CA - Alpine County - 06003 (Yes) CA - El Dorado County - 06017 (Yes) CA - Mono County - 06051 (Yes) CA - Nevada County - 06057 (Yes) CA - Placer County - 06061 (Yes) CA - Sierra County - 06091 (Yes) CA - Tuolumne County - 06109 (Yes) CO - Mesa County - 08077 (Yes) CO - Montrose County - 08085 (Yes) ID - Adams County - 16003 (Yes) ID - Bannock County - 16005 (Yes) ID - Bear Lake County - 16007 (Yes) ID - Bingham County - 16011 (Yes) ID - Blaine County - 16013 (Yes) ID - Boise County - 16015 (Yes) ID - Bonneville County - 16019 (Yes) ID - Butte County - 16023 (Yes) ID - Camas County - 16025 (Yes) ID - Caribou County - 16029 (Yes) ID - Cassia County - 16031 (Yes) ID - Clark County - 16033 (Yes) ID - Custer County - 16037 (Yes) ID - Elmore County - 16039 (Yes) ID - Franklin County - 16041 (Yes) ID - Fremont County - 16043 (Yes) ID - Gem County - 16045 (Yes) ID - Idaho County - 16049 (Yes) ID - Lemhi County - 16059 (Yes) ID - Madison County - 16065 (Yes) ID - Oneida County - 16071 (Yes) ID - Owyhee County - 16073 (Yes) ID - Payette County - 16075 (Yes) ID - Power County - 16077 (Yes) ID - Teton County - 16081 (Yes) ID - Twin Falls County - 16083 (Yes)	

ID - Valley County - 16085 (Yes)
ID - Washington County - 16087 (Yes)
NV - Carson City - 32510 (Yes)
NV - Clark County - 32003 (Yes)
NV - Douglas County - 32005 (Yes)
NV - Elko County - 32007 (Yes)
NV - Eureka County - 32011 (Yes)
NV - Lincoln County - 32017 (Yes)
NV - Lyon County - 32019 (Yes)
NV - Mineral County - 32021 (Yes)
NV - Nye County - 32023 (Yes)
NV - Storey County - 32029 (Yes)
NV - Washoe County - 32031 (Yes)
NV - White Pine County - 32033 (Yes)
UT - Beaver County - 49001 (Yes)
UT - Box Elder County - 49003 (Yes)
UT - Cache County - 49005 (Yes)
UT - Carbon County - 49007 (Yes)
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UT - Garfield County - 49017 (Yes)
UT - Grand County - 49019 (Yes)
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UT - Morgan County - 49029 (Yes)
UT - Piute County - 49031 (Yes)
UT - Rich County - 49033 (Yes)
UT - Salt Lake County - 49035 (Yes)
UT - San Juan County - 49037 (Yes)
UT - Sanpete County - 49039 (Yes)
UT - Sevier County - 49041 (Yes)
UT - Summit County - 49043 (Yes)
UT - Tooele County - 49045 (Yes)
UT - Uintah County - 49047 (Yes)
UT - Utah County - 49049 (Yes)
UT - Wasatch County - 49051 (Yes)
UT - Washington County - 49053 (Yes)
UT - Wayne County - 49055 (Yes)
UT - Weber County - 49057 (Yes)
WY - Fremont County - 56013 (Yes)
WY - Lincoln County - 56023 (Yes)
WY - Park County - 56029 (Yes)
WY - Sublette County - 56035 (Yes)
WY - Teton County - 56039 (Yes)
WY - Uinta County - 56041 (Yes)

Damage Agent:	Armillaria root disease
	<i>Armillaria spp.</i>
Survey Year:	2010
Submitted By:	Kathleen Matthews
Last Edited:	12/15/2010 12:52:37 PM
FS Region:	Region 4
Host(s):	Douglas-Fir, Engelmann Spruce, Grand Fir, Great Basin Bristlecone Pine, Jeffrey Pine, Limber Pine, Lodgepole Pine, Ponderosa Pine, Subalpine Fir, Sugar Pine, Western White Pine, Whitebark Pine
Survey Method:	General Observation
Setting(s):	Rural Forest
Pest Origin:	Native
Acres Affected:	0
Affected Area:	
Narrative:	
Evidence of Armillaria root disease can be found throughout the Intermountain Region. However, the fungus functions primarily as a weak pathogen or saprophyte in most locations, causing little direct tree mortality. In Utah, it may act as a primary pathogen, killing mature and immature lodgepole pine and mature fir and spruce on cool, moist sites at high elevation.	
Counties or Equivalents - Causing Damage (Yes/No):	
CA - Alpine County - 06003 (Yes) CA - El Dorado County - 06017 (Yes) CA - Mono County - 06051 (Yes) CA - Nevada County - 06057 (Yes) CA - Placer County - 06061 (Yes) CA - Sierra County - 06091 (Yes) CA - Tuolumne County - 06109 (Yes) CO - Mesa County - 08077 (Yes) CO - Montrose County - 08085 (Yes) ID - Adams County - 16003 (Yes) ID - Bannock County - 16005 (Yes) ID - Bear Lake County - 16007 (Yes) ID - Bingham County - 16011 (Yes) ID - Blaine County - 16013 (Yes) ID - Boise County - 16015 (Yes) ID - Bonneville County - 16019 (Yes) ID - Butte County - 16023 (Yes) ID - Camas County - 16025 (Yes) ID - Caribou County - 16029 (Yes) ID - Cassia County - 16031 (Yes) ID - Clark County - 16033 (Yes) ID - Custer County - 16037 (Yes) ID - Elmore County - 16039 (Yes) ID - Franklin County - 16041 (Yes) ID - Fremont County - 16043 (Yes) ID - Gem County - 16045 (Yes) ID - Idaho County - 16049 (Yes) ID - Lemhi County - 16059 (Yes) ID - Lincoln County - 16063 (Yes) ID - Madison County - 16065 (Yes) ID - Oneida County - 16071 (Yes) ID - Owyhee County - 16073 (Yes) ID - Payette County - 16075 (Yes) ID - Power County - 16077 (Yes) ID - Teton County - 16081 (Yes)	

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ID - Washington County - 16087 (Yes)
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NV - Elko County - 32007 (Yes)
NV - Esmeralda County - 32009 (Yes)
NV - Eureka County - 32011 (Yes)
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NV - Lincoln County - 32017 (Yes)
NV - Lyon County - 32019 (Yes)
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NV - Nye County - 32023 (Yes)
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NV - Washoe County - 32031 (Yes)
NV - White Pine County - 32033 (Yes)
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UT - Box Elder County - 49003 (Yes)
UT - Cache County - 49005 (Yes)
UT - Carbon County - 49007 (Yes)
UT - Daggett County - 49009 (Yes)
UT - Davis County - 49011 (Yes)
UT - Duchesne County - 49013 (Yes)
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UT - Grand County - 49019 (Yes)
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WY - Lincoln County - 56023 (Yes)
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WY - Sublette County - 56035 (Yes)
WY - Teton County - 56039 (Yes)
WY - Uinta County - 56041 (Yes)

Damage Agent:	balsam woolly adelgid
	<i>Adelges piceae</i>
Survey Year:	2010
Submitted By:	Kathleen Matthews
Last Edited:	12/15/2010 12:58:52 PM
FS Region:	Region 4
Host(s):	Grand Fir, Subalpine Fir
Survey Method:	Ground Survey
Setting(s):	Rural Forest, Urban
Pest Origin:	Exotic
Acres Affected:	3840000
Affected Area:	
This insect has been identified on all forested lands north of Interstate 84. Delimitation surveys south of I-84 will continue.	
Narrative:	
While this introduced forest insect has been present in northern Idaho since 1983, its presence in southern Idaho was not verified until 2001 when it was found killing subalpine fir trees in residential areas in Cascade and McCall. Delimitation surveys conducted from 2006 through 2010 by Idaho Department of Lands and Intermountain Region Forest Health Protection personnel determined the distribution of balsam woolly adelgid extended south of the Salmon River to most Idaho forests. Delimitation surveys will continue in the southern Idaho forests. Forest Health Protection staff established 60 long-term impact plots in 2008 across National Forests in southern Idaho. Selected plots were monitored in 2010 to track changes in stand structure, balsam woolly adelgid impacts and population changes over time. Monitoring will continue in 2011.	
Counties or Equivalents - Causing Damage (Yes/No):	
ID - Adams County - 16003 (Yes) ID - Boise County - 16015 (Yes) ID - Custer County - 16037 (Yes) ID - Elmore County - 16039 (Yes) ID - Fremont County - 16043 (Yes) ID - Gem County - 16045 (Yes) ID - Idaho County - 16049 (Yes) ID - Lemhi County - 16059 (Yes) ID - Teton County - 16081 (Yes) ID - Valley County - 16085 (Yes) ID - Washington County - 16087 (Yes)	

Damage Agent:	black stain root disease
	<i>Leptographium wagneri</i>
Survey Year:	2010
Submitted By:	Kathleen Matthews
Last Edited:	12/15/2010 1:02:30 PM
FS Region:	Region 4
Host(s):	Common Or Two-Needle Pinyon, Singleleaf Pinyon
Survey Method:	Ground Survey
Setting(s):	Rural Forest
Pest Origin:	Native
Acres Affected:	3050
Affected Area:	
Narrative:	
Aerial detection and ground surveys have discovered approximately two-dozen black stain root disease centers in pinyon pine stands in the Intermountain Region. This disease is most prevalent in Utah and Nevada where pinyon pine is abundant. However, it is thought, the disease-infected pinyon pines occur on fewer than 1,500 acres in each state. The northern range of pinyon pine extends up into southern Idaho primarily on Bureau of Land Management lands where approximately 50 acres are infected with black stain root disease.	
Counties or Equivalents - Causing Damage (Yes/No):	

CA - Alpine County - 06003 (Yes)
CA - Mono County - 06051 (Yes)
CA - Sierra County - 06091 (Yes)
CO - Mesa County - 08077 (Yes)
CO - Montrose County - 08085 (Yes)
ID - Cassia County - 16031 (Yes)
ID - Franklin County - 16041 (Yes)
NV - Carson City - 32510 (Yes)
NV - Churchill County - 32001 (Yes)
NV - Clark County - 32003 (Yes)
NV - Douglas County - 32005 (Yes)
NV - Elko County - 32007 (Yes)
NV - Esmeralda County - 32009 (Yes)
NV - Eureka County - 32011 (Yes)
NV - Humboldt County - 32013 (Yes)
NV - Lander County - 32015 (Yes)
NV - Lincoln County - 32017 (Yes)
NV - Lyon County - 32019 (Yes)
NV - Mineral County - 32021 (Yes)
NV - Nye County - 32023 (Yes)
NV - Pershing County - 32027 (Yes)
NV - Storey County - 32029 (Yes)
NV - Washoe County - 32031 (Yes)
NV - White Pine County - 32033 (Yes)
UT - Beaver County - 49001 (Yes)
UT - Box Elder County - 49003 (Yes)
UT - Cache County - 49005 (Yes)
UT - Carbon County - 49007 (Yes)
UT - Daggett County - 49009 (Yes)
UT - Duchesne County - 49013 (Yes)
UT - Emery County - 49015 (Yes)
UT - Garfield County - 49017 (Yes)
UT - Grand County - 49019 (Yes)
UT - Iron County - 49021 (Yes)
UT - Juab County - 49023 (Yes)
UT - Kane County - 49025 (Yes)
UT - Millard County - 49027 (Yes)
UT - Piute County - 49031 (Yes)
UT - San Juan County - 49037 (Yes)
UT - Sanpete County - 49039 (Yes)
UT - Sevier County - 49041 (Yes)
UT - Tooele County - 49045 (Yes)
UT - Uintah County - 49047 (Yes)
UT - Utah County - 49049 (Yes)
UT - Wasatch County - 49051 (Yes)
UT - Washington County - 49053 (Yes)
UT - Wayne County - 49055 (Yes)
WY - Sweetwater County - 56037 (Yes)

Damage Agent:	Douglas-fir beetle
	<i>Dendroctonus pseudotsugae</i>
Survey Year:	2010
Submitted By:	Kathleen Matthews
Last Edited:	12/15/2010 1:08:44 PM
FS Region:	Region 4
Host(s):	
Survey Method:	GIS Data to FHTET (IDS)
Setting(s):	Not Applicable
Pest Origin:	Not Applicable
Acres Affected:	0
Affected Area:	
Narrative:	
Douglas-fir beetle-caused tree mortality increased across Region 4. In 2010, 120,800 trees were killed across 51,200 acres compared to 39,000 trees killed across 20,600 acres in 2009. The increased susceptibility and mortality of Douglas-fir trees to Douglas-fir beetles (DFB) may be due to stress caused by several years of defoliation by western spruce budworm and/or increased DFB populations near the 2007 fire areas. The number of trees and acres affected may be underestimated due to the masking effect of western spruce budworm defoliation. Heavily defoliated trees that have also been attacked by DFB have little foliage to "fade" and may go undetected as beetle-killed trees. The majority of the 2010 Douglas-fir mortality was mapped in southern Idaho (32,100 acres) and Utah (18,600 acres). In southern Idaho, mortality occurred primarily on the Sawtooth (33,400 trees, 11,500 acres), Salmon-Challis (29,000 trees, 10,300 acres), and Caribou-Targhee National Forests (9,100 trees, 4,000 acres). Bureau of Land Management lands in Idaho also experienced increased mortality with 4,500 trees killed across 2,300 acres. In Utah, Douglas-fir mortality was mapped primarily on the Dixie (19,900 trees, 10,300 acres) and Fishlake National Forests (6,000 trees, 3,900 acres).	
Counties or Equivalents - Causing Damage (Yes/No):	

Damage Agent:	Douglas-fir tussock moth
	<i>Orgyia pseudotsugata</i>
Survey Year:	2010
Submitted By:	Kathleen Matthews
Last Edited:	12/15/2010 1:09:20 PM
FS Region:	Region 4
Host(s):	
Survey Method:	GIS Data to FHTET (IDS)
Setting(s):	Not Applicable
Pest Origin:	Not Applicable
Acres Affected:	0
Affected Area:	
Narrative:	
In 2010, approximately 600 acres of Douglas-fir tussock moth-caused defoliation was aially recorded compared to no acres in 2009. Nearly 500 acres were reported in Idaho on the Salmon-Challis National Forest (400 acres) and Bureau of Land Management (100 acres) lands. The remaining 100 acres were reported on the Humboldt-Toiyabe National Forest and Bureau of Land Management lands in Nevada.	
Counties or Equivalent - Causing Damage (Yes/No):	

Damage Agent:	drought
	<drought>
Survey Year:	2010
Submitted By:	Kathleen Matthews
Last Edited:	12/15/2010 1:07:36 PM
FS Region:	Region 4
Host(s):	
Survey Method:	GIS Data to FHTET (IDS)
Setting(s):	Not Applicable
Pest Origin:	Not Applicable
Acres Affected:	0
Affected Area:	
Narrative:	
Dieback and individual tree mortality of mountain mahogany have been observed in Nevada and portions of Utah where 48,800 acres of mountain mahogany leaf discoloration and dieback were mapped in 2010. Symptoms are generally associated with drought on soils associated with dry sites.	
Counties or Equivalents - Causing Damage (Yes/No):	

Damage Agent:	fir engraver
	<i>Scolytus ventralis</i>
Survey Year:	2010
Submitted By:	Kathleen Matthews
Last Edited:	12/15/2010 1:10:12 PM
FS Region:	Region 4
Host(s):	
Survey Method:	GIS Data to FHTET (IDS)
Setting(s):	Not Applicable
Pest Origin:	Not Applicable
Acres Affected:	0
Affected Area:	
Narrative:	
In 2010, fir mortality and topkill caused by fir engraver beetle decreased. Aerial detection surveyors recorded 4,000 acres of impacted fir, compared to 6,100 acres in 2009. Most of the damage occurred in Utah on the Dixie, Fishlake, and Manti-LaSal National Forests with 1,000, 900, and 700 acres affected, respectively. Fir mortality on the Humboldt-Toiyabe National Forest in Nevada dropped from 3,200 acres in 2009 to 300 acres in 2010.	
Counties or Equivalents - Causing Damage (Yes/No):	

Damage Agent:	forest tent caterpillar
	<i>Malacosoma disstria</i>
Survey Year:	2010
Submitted By:	Kathleen Matthews
Last Edited:	12/15/2010 1:10:54 PM
FS Region:	Region 4
Host(s):	
Survey Method:	GIS Data to FHTET (IDS)
Setting(s):	Not Applicable
Pest Origin:	Not Applicable
Acres Affected:	0
Affected Area:	
Narrative:	
Forest tent caterpillar-caused defoliation decreased to 3,200 acres in 2010 from 6,100 acres in 2009. All of the defoliation occurred in the northern portion of Nevada. Defoliation on the Humboldt-Toiyabe National Forest decreased from 5,100 acres in 2009 to 2,700 acres in 2010. Defoliation on private lands in Nevada remained static at 500 acres. Defoliation was not reported in Idaho, Utah or Wyoming in 2010.	
Counties or Equivalent - Causing Damage (Yes/No):	

Damage Agent:	gypsy moth
	<i>Lymantria dispar</i>
Survey Year:	2010
Submitted By:	Kathleen Matthews
Last Edited:	12/15/2010 10:55:59 AM
FS Region:	Region 4
Host(s):	Unknown Hardwood
Survey Method:	Ground Survey
Setting(s):	Rural Forest, Urban
Pest Origin:	Exotic
Acres Affected:	0
Affected Area:	
Narrative:	
The first gypsy moth outbreak detected in Region 4 occurred in Utah in 1988. Gypsy moth populations were subsequently eradicated. Since then, single male moths have been captured in various locations throughout the Region. In 2010, no male moths were captured in southern Idaho, Nevada, Utah and Wyoming in detection or delimitation traps. Delimitation trapping occurs for two years following a male moth capture in detection traps. No moths were captured in the 2009 or 2010 delimitation trap sites in Meridian, ID (Ada County), Kamas, UT (Summit County) or Orem City, UT (Utah County) traps. Because no further moths were caught in the 2010 delimitation grids and no additional positive trap catches occurred in detection traps within Utah or Idaho, only detection trap guidelines will be used for both states in 2011.	
Counties or Equivalents - Causing Damage (Yes/No):	
ID - Ada County - 16001 (No) UT - Summit County - 49043 (No) UT - Utah County - 49049 (No)	

Damage Agent:	Jeffrey pine beetle
	<i>Dendroctonus jeffreyi</i>
Survey Year:	2010
Submitted By:	Kathleen Matthews
Last Edited:	12/15/2010 1:11:58 PM
FS Region:	Region 4
Host(s):	
Survey Method:	GIS Data to FHTET (IDS)
Setting(s):	Not Applicable
Pest Origin:	Not Applicable
Acres Affected:	0
Affected Area:	
Narrative:	
For the second consecutive year, Jeffrey pine beetle-caused tree mortality decreased. In 2010, approximately 400 scattered trees were mapped over 200 acres compared to 600 dead trees recorded over 400 acres in 2009. Most of the Jeffrey pine mortality occurred on the Bridgeport and Carson Ranger Districts of the Humboldt-Toiyabe National Forest.	
Counties or Equivalents - Causing Damage (Yes/No):	

Damage Agent:	mistletoe
	<mistletoe>
Survey Year:	2010
Submitted By:	Kathleen Matthews
Last Edited:	12/15/2010 1:12:29 PM
FS Region:	Region 4
Host(s):	California Red Fir, Douglas-Fir, Grand Fir, Great Basin Bristlecone Pine, Jeffrey Pine, Limber Pine, Lodgepole Pine, Ponderosa Pine, Subalpine Fir, Sugar Pine, Western Larch, Western White Pine, White Fir, Whitebark Pine
Survey Method:	Ground Survey
Setting(s):	Rural Forest, Urban
Pest Origin:	Native
Acres Affected:	0
Affected Area:	
Narrative:	
These plant parasites remain the most widespread and frequently observed disease within the Intermountain Region. Currently, dwarf mistletoe incidence information is updated using data gathered by the Forest Inventory and Analysis (FIA) group. The 2008 FIA data indicated that one or more dwarf mistletoe species were present at various levels of intensity on 15% of all plots surveyed. Incidence of the major dwarf mistletoe species by percent of host type infected within the Intermountain Region is: lodgepole pine 26%, pinyon pine 20%, Douglas-fir 14%, ponderosa/Jeffrey pine 7%, limber pine 12%, and whitebark pine 6%. No FIA plots were located in infected Great Basin bristlecone pine stands.	
Counties or Equivalents - Causing Damage (Yes/No):	
CA - Alpine County - 06003 (Yes) CA - El Dorado County - 06017 (Yes) CA - Mono County - 06051 (Yes) CA - Nevada County - 06057 (Yes) CA - Placer County - 06061 (Yes) CA - Sierra County - 06091 (Yes) CA - Tuolumne County - 06109 (Yes) CO - Mesa County - 08077 (Yes) CO - Montrose County - 08085 (Yes) ID - Adams County - 16003 (Yes) ID - Bannock County - 16005 (Yes) ID - Bear Lake County - 16007 (Yes) ID - Bingham County - 16011 (Yes) ID - Blaine County - 16013 (Yes) ID - Boise County - 16015 (Yes) ID - Bonneville County - 16019 (Yes) ID - Butte County - 16023 (Yes) ID - Camas County - 16025 (Yes) ID - Caribou County - 16029 (Yes) ID - Cassia County - 16031 (Yes) ID - Clark County - 16033 (Yes) ID - Custer County - 16037 (Yes) ID - Elmore County - 16039 (Yes) ID - Franklin County - 16041 (Yes) ID - Fremont County - 16043 (Yes) ID - Gem County - 16045 (Yes) ID - Idaho County - 16049 (Yes) ID - Lemhi County - 16059 (Yes) ID - Madison County - 16065 (Yes) ID - Oneida County - 16071 (Yes) ID - Owyhee County - 16073 (Yes) ID - Payette County - 16075 (Yes) ID - Power County - 16077 (Yes)	

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WY - Lincoln County - 56023 (Yes)
WY - Park County - 56029 (Yes)
WY - Sublette County - 56035 (Yes)
WY - Teton County - 56039 (Yes)
WY - Uinta County - 56041 (Yes)

Damage Agent:	mountain pine beetle
	<i>Dendroctonus ponderosae</i>
Survey Year:	2010
Submitted By:	Kathleen Matthews
Last Edited:	12/15/2010 1:20:10 PM
FS Region:	Region 4
Host(s):	
Survey Method:	GIS Data to FHTET (IDS)
Setting(s):	Not Applicable
Pest Origin:	Not Applicable
Acres Affected:	0
Affected Area:	
Narrative:	
Mountain pine beetle-caused tree mortality remained extremely high across Region 4, increasing slightly in 2010. In 2010, 12.2 million trees were killed affecting 1.5 million acres compared to 11.5 million trees killed affecting 2 million acres in 2009. However, the wilderness areas that were surveyed in 2009 were not surveyed in 2010 indicating a larger increase across non-wilderness areas. The majority of the mortality continues to occur in three areas: central Idaho, northern Utah, and western Wyoming. The mountain pine beetle (MPB) outbreak in central Idaho continues to be the largest in the Region. MPB caused mortality began to increase significantly in central Idaho beginning in 1998. In 2010, mortality of non-wilderness lodgepole, whitebark, limber and ponderosa pine increased to 9.5 million trees killed across 1.0 million acres. MPB-caused tree mortality increased on the Salmon-Challis, Caribou-Targhee and Payette National Forests but decreased on the Sawtooth National Forest. On the Salmon-Challis National Forest (NF), 7.4 million trees were killed across 581,500 acres compared to 5.3 million trees killed across 612,700 acres in 2009. Mortality of second growth ponderosa pine increased dramatically on the Salmon-Challis NF. MPB caused tree mortality also increased on the Caribou-Targhee NF with 1.1 million trees killed across 167,300 acres compared to 956,500 trees killed over 102,300 acres. The Payette NF experienced an increase in pine mortality with 201,700 trees killed across 46,900 acres compared to 169,200 trees killed on 34,700 acres in 2009. Pine mortality decreased on the Sawtooth NF from 217,900 trees killed over 80,300 acres in 2009 to 176,500 trees killed over 56,800 acres in 2010. This outbreak remains the largest recorded in the Region. Another outbreak of MPB occurs in northern Utah where 1.7 million pine trees were killed over 237,700 acres in 2010 compared to 954,900 trees killed on 243,100 acres in 2009. The MPB outbreak, which began in 2003 has increased annually with most of the mortality occurring on the Uintah-Wasatch-Cache NF (1.4 million trees, 146,400 acres). Substantial pine mortality was also recorded on the Ashley NF (261,300 trees, 67,800 acres). The third outbreak area is located in western Wyoming affecting forested portions on all ownerships. Pine mortality decreased from 1.5 million trees killed over nearly 500,000 acres in 2009 to 850,500 trees killed over 253,500 acres in 2010. Most of the mortality occurred on the Bridger-Teton NF (771,300 trees, 231,000 acres).	
Counties or Equivalent - Causing Damage (Yes/No):	

Damage Agent:	pine engraver
	<i>Ips pini</i>
Survey Year:	2010
Submitted By:	Kathleen Matthews
Last Edited:	12/15/2010 1:21:14 PM
FS Region:	Region 4
Host(s):	
Survey Method:	GIS Data to FHTET (IDS)
Setting(s):	Not Applicable
Pest Origin:	Not Applicable
Acres Affected:	0
Affected Area:	
Narrative:	
In the Intermountain Region, only 10 acres of pine engraver beetle-caused tree mortality was reported in Nevada during the 2010 aerial detection survey. No damage was reported in southern Idaho, Utah or western Wyoming. In 2009, approximately 6,400 trees were mapped across 2,200 acres, predominantly in Idaho.	
Counties or Equivalents - Causing Damage (Yes/No):	

Damage Agent:	pine needle scale
	<i>Chionaspis pinifoliae</i>
Survey Year:	2010
Submitted By:	Kathleen Matthews
Last Edited:	12/15/2010 1:23:56 PM
FS Region:	Region 4
Host(s):	
Survey Method:	GIS Data to FHTET (IDS)
Setting(s):	Not Applicable
Pest Origin:	Not Applicable
Acres Affected:	0
Affected Area:	
Narrative:	
Pinyon needle scale-caused defoliation of pinyon pines increased in 2010 to over 1.2 million acres. In Nevada and Utah, defoliation affected 1.2 million acres and 46,400 acres, respectively, compared to 672,600 acres and 6,200 acres, respectively, reported in 2009. The majority of defoliation occurred in Nevada on the Humboldt-Toiyabe National Forest (689,300 acres), Bureau of Land Management lands (429,200 acres) and private ownership (46,800 acres). In Utah, most of the defoliation occurred on the Dixie National Forest (28,900 acres) and Bureau of Land Management (14,100 acres) lands. The recent outbreak of pinyon scale was first reported in 2008 in eastern Nevada; however, it wasn't until 2009 that it was visible during aerial detection surveys due to the extensive and severe defoliation. Serious outbreaks of pinyon needle scale have occurred before in the southwestern United States. Reoccurring infestations increase pinyon tree susceptibility to Pinyon Ips-caused tree mortality. Scale infestations can kill small trees and seriously weaken larger trees as the affected needles drop from the tree. Thin crowns cause a ghostly "see-through" appearance of the forest. In many locations, this outbreak is occurring in conjunction with pinyon sawfly, Neodiprion edulicolus defoliation.	
Counties or Equivalents - Causing Damage (Yes/No):	

Damage Agent:	pinyon ips
	<i>Ips confusus</i>
Survey Year:	2010
Submitted By:	Kathleen Matthews
Last Edited:	12/15/2010 1:21:42 PM
FS Region:	Region 4
Host(s):	
Survey Method:	GIS Data to FHTET (IDS)
Setting(s):	Not Applicable
Pest Origin:	Not Applicable
Acres Affected:	0
Affected Area:	
Narrative:	
Historically, pinyon-juniper woodlands have not been annually surveyed in the Intermountain Region. An extended drought caused an increase in pinyon ips populations during 2001 and 2002 resulting in a significant increase in pinyon pine mortality. This widespread increase in tree mortality initiated aerial surveys of this host type. By 2005, pinyon ips populations had collapsed to endemic levels. Most of the pinyon/juniper woodlands have not been aerially surveyed since 2004. Of the pinyon-juniper woodlands surveyed in 2010, 4,300 trees were killed across 7,500 acres in Nevada and Utah. In Nevada pinyon mortality decreased in 2010 to 3,100 dead trees mapped across 6,900 acres compared to 19,900 dead trees across 84,300 acres in 2009. Tree mortality occurred primarily on Bureau of Land Management ownership (1,300 trees, 5,900 acres) and the Humboldt-Toiyabe National Forest (1,300 trees, 600 acres). In Utah, pinyon mortality increased to 1,300 trees mapped across 700 acres in 2010 compared to 500 trees mapped across 400 acres in 2009. The mortality occurred primarily on the Fishlake National Forest with 500 trees killed over 300 acres and on Bureau of Land Management ownership where 300 trees were killed over 100 acres.	
Counties or Equivalent - Causing Damage (Yes/No):	

Damage Agent:	pinyon sawfly
	<i>Neodiprion eduliculus</i>
Survey Year:	2010
Submitted By:	Kathleen Matthews
Last Edited:	12/15/2010 1:23:15 PM
FS Region:	Region 4
Host(s):	
Survey Method:	GIS Data to FHTET (IDS)
Setting(s):	Not Applicable
Pest Origin:	Not Applicable
Acres Affected:	0
Affected Area:	
Narrative:	
Pinyon sawfly-caused defoliation of pinyon trees decreased in Nevada to 27,200 acres in 2010 from 132,900 acres reported in 2009. The Humboldt-Toiyabe National Forest and Bureau of Land Management lands were primarily affected with 23,500 and 3,500 acres, respectively. The last reported widescale outbreak occurred in 1965; however, since then there have been periodic small scale outbreaks of less than 100 acres. Although this is the second year it was mapped during aerially surveys, subsequent ground visits indicate the defoliation had been occurring for the previous 3-4 years, resulting in some tree mortality in affected sites. Possible reasons for the sudden increased activity include drought, an abundance of host type, mild winters, low parasite/predator populations or some combination of conditions. In many locations, the sawfly defoliation is occurring in conjunction with pinyon scale defoliation. Heavily defoliated trees are seriously stressed or killed by these insects.	
Counties or Equivalents - Causing Damage (Yes/No):	

Damage Agent:	spruce beetle
	<i>Dendroctonus rufipennis</i>
Survey Year:	2010
Submitted By:	Kathleen Matthews
Last Edited:	12/15/2010 1:26:13 PM
FS Region:	Region 4
Host(s):	
Survey Method:	GIS Data to FHTET (IDS)
Setting(s):	Not Applicable
Pest Origin:	Not Applicable
Acres Affected:	0
Affected Area:	
Narrative:	
In 2010, spruce beetle-caused mortality affecting primarily Engelmann spruce and to a much lesser extent blue spruce, increased slightly with 49,100 trees killed over 23,100 acres compared to 36,300 trees mapped over 25,000 acres in 2009. Most of the spruce mortality was mapped in Utah, where it was detected at some level on all National Forests. The most abundant tree mortality was mapped on the following National Forests: Uinta-Wasatch-Cache (28,000 trees, 12,100 acres), Fishlake (10,800 trees, 7,000 acres) and Ashley (1,500 trees, 500 acres). Spruce mortality also occurred on private lands in Utah (3,900 trees, 1,200 acres) and state owned lands (1,200 trees, 500 acres). Spruce mortality was also mapped on the Bridger-Teton National Forest in western Wyoming with 3,100 trees killed over 900 acres. Scattered and isolated spruce mortality was also mapped in Nevada. No spruce mortality was reported in southern Idaho.	
Counties or Equivalents - Causing Damage (Yes/No):	

Damage Agent:	subalpine fir mortality
	<subalpine fir mortality>
Survey Year:	2010
Submitted By:	Kathleen Matthews
Last Edited:	12/15/2010 12:40:51 PM
FS Region:	Region 4
Host(s):	
Survey Method:	GIS Data to FHTET (IDS)
Setting(s):	Not Applicable
Pest Origin:	Not Applicable
Acres Affected:	0
Affected Area:	
Narrative:	
Decline and subsequent mortality of subalpine fir attributed to the subalpine fir mortality complex was first described in the late 1980's in the Intermountain Region. Tree mortality caused by symptoms associated with decline peaked in the mid-1990's when over one million trees were affected by this complex. Although there are a number of fungal pathogens involved in this complex, the primary insect causing subalpine fir mortality is the western balsam bark beetle; Dryocoetes confusus and balsam woolly adelgid, Adelges piceae. Overstocked and overmature stand conditions compounded by drought are factors contributing to subalpine fir decline. In 2010, subalpine fir mortality decreased for the third consecutive year in Region 4 where 61,000 subalpine fir trees died over 28,800 acres compared to 82,100 subalpine fir trees killed over 59,100 acres in 2009. Most of the subalpine fir mortality was mapped in southern Idaho on the Caribou-Targhee National Forest (10,600 trees across 5,900 acres) and in western Wyoming on the Bridger-Teton National Forest (10,000 trees across 3,400 acres). This is the seventh consecutive year that the Bridger-Teton National Forest experienced high levels of mortality in the Region. Other areas with subalpine fir mortality include the Salmon-Challis National Forest (7,000 trees across 1,700 acres) and the Sawtooth National Forest (5,500 trees across 2,700 acres) of southern Idaho. In Utah, aerial surveys on the Uinta-Wasatch-Cache National Forest recorded 4,500 trees killed over 2,400 acres with an additional 3,400 trees killed across 1,800 acres on adjacent private land.	
Counties or Equivalents - Causing Damage (Yes/No):	

Damage Agent:	sudden aspen decline
	<sudden aspen decline>
Survey Year:	2010
Submitted By:	Kathleen Matthews
Last Edited:	12/15/2010 1:06:31 PM
FS Region:	Region 4
Host(s):	
Survey Method:	GIS Data to FHTET (IDS)
Setting(s):	Not Applicable
Pest Origin:	Not Applicable
Acres Affected:	0
Affected Area:	
Narrative:	
In 2006, permanent Evaluation Monitoring plots were installed in Region 4 to determine the cause of sudden aspen decline. Aerial detection survey data from 2005 was used to identify and establish 75-permanent plots in accessible symptomatic stands throughout the range of aspen in Utah, Nevada, and western Wyoming. In 2007, fifty-one additional declining aspen stands were surveyed in southern Idaho. All established plots will continue to be monitored over time. Drought, succession to other vegetation types-linked to fire exclusion, and damage to aspen suckers by grazing all contribute to the decline of aspen forests. Eventual synthesis of this report data with other survey data should provide more insight into the aspen decline phenomenon. Aspen dieback and defoliation mapped by aerial detection survey increased slightly in 2010, from 48,800 acres in 2009 to 50,800 in 2010, but still less than the peak aspen dieback that occurred in 2006 through 2008. The famous Pando clone on the Fishlake National Forest is experiencing a mortality event that is causing substantial management concern. Two aspen bark beetles (<i>Trypophloeus populi</i> and <i>Procryphalus mucronatus</i>) appear to be playing an increasing role in this dieback. These two beetles were not common in the Intermountain Region until recently. It has been noted that <i>Trypophloeus</i> attack trees that still have a large component of "green bark", while <i>Procryphalus</i> is found in trees in which the bark is almost entirely dead. In 2006-2008 ground surveys, aspen bark beetles were rarely detected, but are now common in many Utah stands showing dieback and decline symptoms.	
Counties or Equivalents - Causing Damage (Yes/No):	

Damage Agent:	western pine beetle
	<i>Dendroctonus brevicomis</i>
Survey Year:	2010
Submitted By:	Kathleen Matthews
Last Edited:	12/15/2010 1:26:53 PM
FS Region:	Region 4
Host(s):	
Survey Method:	GIS Data to FHTET (IDS)
Setting(s):	Not Applicable
Pest Origin:	Not Applicable
Acres Affected:	0
Affected Area:	
Narrative:	
In 2010, ponderosa pine mortality attributed to western pine beetle increased. Approximately 15,900 trees were mapped over 6,800 acres in 2010 compared to 2,700 dead trees mapped over 1,200 acres in 2009. Most of the mortality was mapped in Idaho on the Payette (10,300 trees, 4,300 acres) and Boise (4,700 trees, 2,100 acres) National Forests following wildfire activity. In Utah, less than 300 trees were mapped across 100 acres on National Forest and private lands.	
Counties or Equivalents - Causing Damage (Yes/No):	

Damage Agent:	western spruce budworm
	<i>Choristoneura occidentalis</i>
Survey Year:	2010
Submitted By:	Kathleen Matthews
Last Edited:	12/15/2010 1:27:30 PM
FS Region:	Region 4
Host(s):	
Survey Method:	GIS Data to FHTET (IDS)
Setting(s):	Not Applicable
Pest Origin:	Not Applicable
Acres Affected:	0
Affected Area:	
Narrative:	
Western spruce budworm-caused tree defoliation increased slightly affecting 718,700 acres in 2010 compared to 691,800 mapped in 2009. In south-central Idaho, defoliation was reported across most land ownerships, with the highest amount occurring on the Salmon-Challis National Forest (116,200 acres) down from 221,200 acres reported in 2009. For the sixth consecutive year, the Boise National Forest experienced extensive defoliation (182,500 acres) down from 199,300 acres reported in 2009. Increases occurred on the Caribou-Targhee (78,300 acres up from 15,600 acres) and Sawtooth (52,400 acres up from 27,200 acres) National Forests. In Utah, large areas of heavy defoliation were reported on the Dixie (98,800 acres up from 47,500 acres) and Fishlake (38,500 acres up from 19,700 acres) National Forests. No western spruce budworm activity was reported in Nevada and minimal acres of defoliation were reported in Western Wyoming in 2010.	
Counties or Equivalents - Causing Damage (Yes/No):	

Damage Agent:	white pine blister rust
	<i>Cronartium ribicola</i>
Survey Year:	2010
Submitted By:	Kathleen Matthews
Last Edited:	12/15/2010 2:19:17 PM
FS Region:	Region 4
Host(s):	Limber Pine, Western White Pine, Whitebark Pine
Survey Method:	Ground Survey
Setting(s):	Nursery, Rural Forest, Urban
Pest Origin:	Exotic
Acres Affected:	1000000
Affected Area:	
Narrative:	
White pine blister rust has spread throughout the range of western five-needle pines in the Intermountain west. White pine blister rust (WPBR) is most notorious for its impact on western white pine habitat, but in the Intermountain Region, WPBR is most frequently found on whitebark and limber pines. Whitebark pine inhabit high mountain tops above 7,000 feet in Idaho, western Wyoming, northern Nevada and along the California/Nevada border while limber pine inhabits the more arid portions of the Intermountain Region. In the Intermountain region, western white pine is found only on the Humboldt-Toiyabe National Forest along the California/Nevada border. To date, WPBR has not been detected on Great Basin bristlecone pine despite high susceptibility in greenhouse tests. Plots have been established to survey and monitor white pine blister rust spread and intensification on limber, whitebark, Great Basin Bristlecone and western white pine.	
Counties or Equivalents - Causing Damage (Yes/No):	
CA - Alpine County - 06003 (Yes) CA - Placer County - 06061 (Yes) ID - Adams County - 16003 (Yes) ID - Blaine County - 16013 (Yes) ID - Boise County - 16015 (Yes) ID - Bonneville County - 16019 (Yes) ID - Butte County - 16023 (Yes) ID - Camas County - 16025 (Yes) ID - Caribou County - 16029 (Yes) ID - Clark County - 16033 (Yes) ID - Custer County - 16037 (Yes) ID - Elmore County - 16039 (Yes) ID - Fremont County - 16043 (Yes) ID - Idaho County - 16049 (Yes) ID - Lemhi County - 16059 (Yes) ID - Payette County - 16075 (Yes) ID - Teton County - 16081 (Yes) ID - Valley County - 16085 (Yes) NV - Carson City - 32510 (Yes) NV - Douglas County - 32005 (Yes) NV - Elko County - 32007 (Yes) NV - Lyon County - 32019 (Yes) NV - Washoe County - 32031 (Yes) WY - Fremont County - 56013 (Yes) WY - Lincoln County - 56023 (Yes) WY - Park County - 56029 (Yes) WY - Sublette County - 56035 (Yes) WY - Teton County - 56039 (Yes)	